

The System Na, Ca||SO₄, HCO₃-H₂O at 25° and a CO₂-pressure of about 1 atm. 78-2-34/43

develops according to the following reaction: (at a higher CO₂-content in the solution and a concentration of Na₂SO₄ < 1%) $\text{Ca}(\text{HCO}_3)_2 + \text{Na}_2\text{SO}_4 \rightleftharpoons \text{CaSO}_4 + 2 \text{NaHCO}_3 - \text{H}_2\text{O}$

At lower concentrations of sodium sulfate neither gypsum nor sodium bicarbonate form. From the performed investigations follows that the formation of sodium bicarbonate and gypsum at 25° C and a CO₂-pressure of about 1 atm. is limited. There are 1 figure, 1 table, and 14 references, 8 of which are Slavic.

ASSOCIATION: West Siberian Branch AS USSR - Chemical-Metallurgical Institute (Zapadno-Sibirskiy filial Akademii nauk SSSR - Khimiko-metallurgicheskii institut)

SUBMITTED: March 25, 1953

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Card 2,2

NIKOL'SKAYA, Yu.P.; MOSHKINA, I.A.

System Na^+ , Ca^{++} $\text{SO}_4 = \text{HCO}_3^-$ - H_2O at 25°C and $\text{PCO}_2 = 1$ atm. Trudy
Khim.-met.inst.Zap.-Sib.fil.AN SSSR no.12:3-10 '58. (MIRA 146)
(Systems (Chemistry))

NIKOL'SKAYA, Yu.P.; MOSHKINA, I.A.

System Na^+ , Mg^{++} , SO_4^{--} , HCO_3^- - H_2O at 25°C and PCO_2 1 atm. Trudy
Khim.-met.inst.Zap.-Sib.fil.AN SSSR no.12:11-15 '58. (MIRA 14:6)
(Systems (Chemistry))

NIKOL'SKAYA, Yu.P.; MOSHKINA, I.A.

Chemical formation of soda in nature. Trudy Khim.-met.inst.Zap.-Sib.
fil.AN SSSR no.12:17-28 '58. (MIRA 14:6)
(Sodium carbonate)

MOSHKINA, I.A.

Concentration of some trace elements in the water of Novosibirsk
Reservoir. Trudy Biol. inst. Sib. otd. AN SSSR no.7:135-140
'61. (MIRA 15:3)

(NOVOSIBIRSK RESERVOIR--TRACE ELEMENTS)

MOSHKINA, I.A.

On the geochemistry of bromine in lakes of the Kulunda steppe.
Izv. SO AN SSSR no.3 Ser. khim. nauk no.1:48-55 '63. (MIRA 16:8)
1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.
(Kulunda steppe—Salts) (Bromine—Analysis)

MOSHKINA, I.A.; NIKOL'SKAYA, Yu.P.

Trace elements in the underground waters of the Oligocene
sediments in the Irtysh artesian basin. Geol. i geofiz.
no.6:130-135 '64. (MIRA 18:11)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.

KOSHKEINA, I.A.; GORFYREVA, G.I.; NIKOL'SKAYA, Yu.P.

quaternary reciprocal system Na, Ca // CO_2 , H_2O , H_2 , O_2
at various partial pressures of CO_2 . *Izv. AN SSSR* no. 3;
Ser. khim. nauk no. 1:20-26, 1965. (MIRA, 8)

1. Institut fiziko-khimicheskikh osnov pererabotki i peredachi
syr'ya Sibirskogo otdeleniya AN SSSR, Novosibirsk.

MOSHKINA, I.A.

Isothermal evaporation of the desulfated brine of Lake Kuchuk.
Izv. Sib. otd. AN SSSR no.12:140-143 '62. (MIRA 17:8)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.

MOSHKINA, L.V.

Some data on photosynthesis in Dinoflagellatae of the Black Sea. Fiziol.
rast. 8 no.2:172-177 '61. (MIRA 14:3)

1. A. O. Kovalevsky Biological Station, Sevastopol.
(Black Sea—Algae) (Photosynthesis)

MOSHKINA, M.K.; SAZHIN, V.S.

Soda-free leaching of nepheline sinters. Ukr. khim. zhurn.
30 no.3:296-299 '64. (MIRA 17:110)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

MOGILKINA, M.K.; SAGHIN, V.S.; DEMENT'YEVA, S.D.

Interaction of kaolin with aluminate solutions. Ukr. khim. zhur.
31 no.8:851-856 '65. (MIRA 18:9)

MOSEKINA, R. I.

USSR/Nuclear Physics - Conversion Electrons

Oct 51

"Width of Gamma Lines and Doppler Widening of Lines of Conversion Electrons," V. S. Shpinel, R. I. Moshkina, Moscow State U

"Zhur Eksper i Teoret Fiz" Vol XXI, No 10, pp 1127-1131

Precise beta spectrometer with transversal non-uniform field of axial symmetry was used for measurement of conversion line, produced by gamma transition of $h\nu = 287$ keV in $^{232}\text{ThC}''$ nucleus, recoiling because of preceding alpha decay. Expected widening of conversion line did not appear. This data was used for evaluation of life of excited $^{232}\text{ThC}''$ nucleus. Authors acknowledges Prof L. V. Groshev's helpful discussion. Submitted 12 Oct 50.

PA 197795

1. Law of the conservation of energy
mechanism of the radiation of the
A. A. Kuroshvili, 1955, 111, 100, 101
M. B. Kuroshvili, 1955, 111, 100, 101
The law of the conservation of energy
1955, 111, 100, 101

ANTONOVA, I.M.; KUZ'MIN, V.A.; KOSHEINA, R.I.; NALBANDYAN, A.B.; NEYMAN, M.B.;
FEKLISOV, G.I.

Study of the reaction mechanism of the oxidation of methane by
means of labeled atoms. Izv. AN SSSR. Otd.khim.nauk no.5 S-0 '55.
Izv.AN SSSR.Otd. khim.nauk no.5:789-792 S-0 '55. (MLRA 9:1)

1. Institut khimicheskoy fiziki Akademii nauk SSSR.
(Methane) (Carbon--Isotopes) (Oxidation)

ANTONOVA, I. N., MOSHKINA, R. I., NALBANDYAN, A. B., HESMAN, M. B., FIKLISOV, G. I.

'Tracer Study of the Mechanism of the Reaction of Methane Oxidation,'

Problems Kinetics and Catalysis, v. 9, Isotopes in Catalysis, Moscow: Izdat. AN SSSR, 1957. 442p

Most of the papers in this collection were presented at the Conf. on Isotopes in Catalysis which took place in Moscow (Mar 31 - Apr 6, 1956).

01.07.1957
KOSHKINA, R.I.; NALBANDYAN, A.B.; NEYMAN, M.B.; FEKLISOV, G.I.

Tracer method for studying methane oxidation reaction. Report No.2:
Mechanism of carbon dioxide formation. Izv.AN SSSR.Otd.khim.nauk.
no.7:801-805 J1 '57. (MIRA 10:10)

1.Institut khimicheskoy fiziki AN SSSR.
(Chemical reaction--Mechanism)
(Carbon dioxide)

MOSHKINA, R.I.

ANTONOVA, I.N.; MOSHKINA, R.I.; NALBANDYAN, A.B.; NEYMAN, M.B.; FEKLISOV, G.I.

Study of the mechanism of oxidation of methane using tagged atoms.
Probl. kin. i kat. 9:97-103 '57. (MIRA 11:3)
(Methane) (Oxidation) (Carbon--Isotopes)

MOSHKINA, R.I.

Discussion. Probl. kin. i kat. 9:134 '57.
(Oxidation) (Methane)

(MIRA 11:3)

MOSEYIN A. B. I.

AUTHORS: Maruyama, A. M., Yoshikawa, A. I., 12-11-1972
Miyajima, I. I.

TITLE: The reaction of formaldehyde with carbon monoxide
in the oxidation of formaldehyde (Oxidation of formaldehyde
vanil'eva i formal'deida pri oksidatsii formal'deida)

PERIODICAL: Izvestiya Akademi Nauk SSSR, Otdel. Khimicheskikh
Nauk, 1974, No. 1, p. 302-303 (USSR)

ABSTRACT: The logical consequences of the oxidation of formaldehyde
hydrocarbon in the oxidation of formaldehyde (CO) have
already been discussed in a previous paper of A. M.
(Halband, A. and Heyman). In connection herewith it was
of interest to the authors to check by means of the
method of marked atoms these consequences (in the
works by Halband, A. and Heyman). The investigations
were carried out at atmospheric pressure with a mix-
ture of formaldehyde and air (1:9). The kinetics was
investigated only in the initial stage of the reaction.
The results of the investigations are shown in Figure 1.
From it can be seen that the ways to the formation of

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Mechanism of the Formation of Carbon
Dioxide in the Oxidation of Formaldehyde

62-11-1/32

CO_2 in the oxidation of formaldehyde must not be connected with the reaction of the oxidation of CO . In the opposite case the points for CO_2 would be displaced upward (i. e. above the line CO). It was proved that not more than 3 to 5% CO_2 can form in the oxidation of CO . The main mass of CO_2 -(95-97%) is directly formed from formaldehyde. There are 1 figure and 5 references, all of which are Soviet.

ASSOCIATION: Institut Khimicheskoy Fiziki Akademii Nauk SSSR
(Institute for Chemical Physics, AS USSR)

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1. Carbon dioxide--Formation 2. Formaldehyde oxidation
--Applications

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26.2510

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S/171/61/014/003/001/004
E071/E435

AUTHORS: Mantashyan, A.A. Moshkina, R.I. and Nalbandyan, A.B.
TITLE: On the behaviour of the methyl peroxide radical in the reaction of low temperature oxidation of methane
PERIODICAL: Akademiya nauk Armyanskoy SSR. Izvestiya. Khimicheskiye nauki. v.14, no.3, 1961, pp.185-195

TEXT: A study was made of the behaviour of the methyl peroxide radical within a wide range of temperatures in the reaction of oxidation of methane photosensitized with mercury, the difference between the activation energies of isomerization and decomposition of the peroxide radical and its reaction with methane was determined. The residence time of the reaction mixture in the irradiation zone was varied from 2 to 8-10 sec. The experiments were carried out at atmospheric pressure within the temperature range: room temperature to 400°C. A quartz lamp РРК-2 (PRK-2) was used as a source of radiation, it was placed inside the reactor which consisted of three quartz tubes, placed co-axially. The lamp, placed in the internal tube, was cooled with circulating distilled water. The space between the first and second tube was
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On the behaviour of the methyl

continuously evacuated with high vacuo pumps. The space between the second and the third tube served as a preheater and a reactor. Before passing into the reactor, the reaction mixture (90% CH₄, 10% O₂) was saturated with mercury vapour at room temperature. For the determination of the velocity of formation of methyl hydroperoxide and formaldehyde, methyl hydroperoxide marked with C¹⁴ was introduced into the reaction mixture. The experimental procedure used was described previously (Ref. 8: N.A. Kleymentov, Candidate dissertation, IKhF AN SSSR, 1959; Ref. 9: R.I. Moshkina, N.L. Galanina, A.B. Naibandyan, Izv. AN SSSR, OKhN 10, 1725 (1959)). It was found that the yield of oxidation products, calculated for 1 litre of the reaction mixture passed through the reactor, increases linearly with increasing residence time of the mixture in the irradiation zone (up to 10 sec). Within the range of temperatures studied, the yield of the peroxide increases with temperature, reaches a maximum (280 to 310°C) and then sharply decreases to zero. Formaldehyde appears in the reaction products later than peroxide and its yield is continuously increasing. On the basis of velocities of formation of formaldehyde (W_a) and methyl hydroperoxide (W_n), it was calculated that at 300°C about

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S/171/61/014/003/001/004

On the behaviour of the methyl ... E071/E435

57% of methane, consumed in the reaction, is transformed into formaldehyde by-passing the methyl hydroperoxide stage. Of the total formaldehyde formed at a given temperature only 7% is formed from peroxide on its thermal decomposition. On the basis of the ratios of W_a/W_n (determined for the temperature range 190 to 325°C) the difference in the activation energies ΔE of the processes of isomerization and decomposition of the peroxide radical and its reaction with methane was determined ($\Delta E = 8500$ cal/mole). From the above data the ratio of the velocity constants of the reactions $CH_3OO \rightarrow CH_2O + OH$ (4) and $CH_3COO + CH_4 \rightarrow CH_3COOH + CH_3$ (2) was calculated: $K_4/K_2 = 2.5 \times 10^{22} \text{ cm}^3$. There are 4 figures and 10 references: 9 Soviet and 1 non-Soviet. The reference to the English language publications reads as follows: H.Callender, Engineering 123, 147, 182, 210 (1927); A.C.Egerton, L.Smith, A.R.Ubbelohde, Phil. Trans. A.234, 433 (1953); E.W.Mardles, J.Chem. Soc. 1928, 872; J.A.Gray, J.Chem. Soc. 1952, 3150.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR
(Institute of Chemical Physics AS USSR)

SUBMITTED: March 19, 1961

Card 3/3

ROSHINA, R.I.; FAIBANLYA, A.B.

Oxidation of acetone in formaldehyde initiated by nitric oxide
Neftekhimiya 4 no.2:286-289 Apr '64 RA 17:8)

1. Institut khimicheskoy fiziki AN S.S.S.R.

KOMPANEYETS, A.S.; MOSHKINA, R.I.

Chain termination on the surface with allowance for the diffusion
of two active centers. Dokl. AN SSSR 160 no.5:1117-1120 F 165.
(MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR. Submitted August 10 1964.

KOMPANEYETS, A.S.; MOSHKINA, R.I.

Applicability of a radical chain scheme to the kinetics of
high-temperature methane oxidation initiated by nitrogen
oxides. *Kin. i kat.* 6 no. 6:1098-1107 N.S. '65 (MIRA 19:1)

1. Institut khimicheskoy fiziki AN SSSR. Submitted November 25,
1964.

Mosh V. K. T. M.
 New method of synthesis of esters of phosphonic and thiophosphonic acids. XXVII. Addition of dialkyl phosphites and dialkyl thiophosphites to the ylidene derivatives of malonic ester and acetylacetonate. 7 Phosphonobarthitric acids. A. N. Pudovik and T. M. Moshkina (State Univ., Kazan). *Zh. Obshch. Khim.* 27, 1611-17 (1957); *Ch. 47, 00100; 43, 2373c; 50, 4143f, 11230f; 51, 2542c; Gokh. bahp and Fiebig, C.A. 51, 5709c.*—To an equimolar mixt. of $\text{CH}_2=\text{C}(\text{CO}_2\text{Et})_2$ (cf. Levina and Golovikov, C.A. 50, 2458c) and $(\text{RO})_2\text{POH}$ or $(\text{RO})_2\text{PSH}$ was added a satd. soln. of RONa in ROH ; after the exothermic reaction the mixt. was warmed 16-20 min. on an H_2O bath and disd. yielding: 88% $(\text{MeO})_2\text{P}(\text{O})\text{CH}_2\text{CH}(\text{CO}_2\text{Et})_2$, bp 172-3°, n_D^{20} 1.4424, d_4^{20} 1.2034; 71% di-Et ester analog, bp 179-80°, 1.4355, 1.1278; 47% $(\text{BuO})_2\text{P}(\text{O})\text{CH}_2\text{CH}(\text{CO}_2\text{Et})_2$, bp 144-10, 1.0750; 51% $(\text{EtO})_2\text{P}(\text{S})\text{CH}_2\text{CH}(\text{CO}_2\text{Et})_2$, bp 180-2°, 1.4870, 1.1123. Slow addn. of EtONa in EtOH to 10 g. $\text{PhCH}:\text{CAc}_2$ and 11 g. $(\text{EtO})_2\text{POH}$ gave after a long induction period a rapid exothermic reaction which yielded 4.2 g. $\text{PhCH}(\text{CH}_2\text{Ac})\text{P}(\text{O})(\text{OEt})_2$ (I), b. 190-1°, 1.5005, 1.1284, formed by evident deacylation of the expected product. Similar reaction, but using dry EtONa catalyst, gave after 30 min. on a steam bath 9.9 g. $(\text{EtO})_2\text{P}(\text{O})\text{CHPhCH}(\text{COMe})_2$ (II), b. 200-2°, 1.6178, 1.1790. Similarly was obtained 40% $(\text{MeO})_2\text{P}(\text{O})\text{CHPhCH}(\text{COMe})_2$, b. 198-200°, 1.5398. — Heating 4 g. II in EtOH with a little EtONa 2 hrs. gave I, b. 190-2°, 1.5030, 1.1294. Similarly were obtained: 42% $(\text{BuO})_2\text{P}(\text{O})\text{CHPhCH}(\text{COMe})_2$, b. 205-70°, 1.4970, 1.1060, and 50% $(\text{EtO})_2\text{P}(\text{O})\text{CHMeCH}(\text{COMe})_2$, bp 170-2°, 1.4750, 1.1690. The appropriate phosphonomalonic esters (0.01 mole) treated with soln. of 0.03-0.04 mole

Distr: 4E4j/4E3d/4E2c(j)

A. N. Ponomarev et al.

Reaction of 3-phenyl-2-thio-1-propanol with phosphorus pentachloride or CS_2NH_2 , and subsequent esterification, gave a series of phosphonate and acylation the corresponding phosphonohydroxy acids. Thus were prepd. in 80-70% yields: $(\text{MeO})_2\text{P}(\text{O})\text{CH}_2\text{CH}(\text{CONH}_2)_2$, m. 97° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}_2\text{CH}(\text{CONH}_2)_2$, m. 100° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CH}_2\text{CH}(\text{CONH}_2)_2)_2$, m. $98-100^\circ$; $(\text{MeO})_2\text{P}(\text{O})\text{CH}(\text{CH}_2\text{CH}(\text{CONH}_2)_2)_2$, m. $163-164^\circ$; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CH}_2\text{CH}(\text{CONH}_2)_2)_2$, m. $163-164^\circ$; $(\text{MeO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 108° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 107° ; $(\text{BuO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 110° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 144° ; $(\text{MeO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 177° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 109° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 110° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 178° ; $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{Me})\text{CH}(\text{CONH}_2)_2$, m. 178° . Prepn. of $(\text{RO})_2\text{P}(\text{O})\text{CH}(\text{CO}_2\text{R})_2$ was accomplished by 3 different routes, all of which giving the same product: hence the Arbuzov reaction (cf. A. and Kamal, J. A. 42, 4523) is correct with halomalonate esters and the supposition about its abnormality made by Allen and Johnson, J. A. 50, 3272, is incorrect. Heating 16.5 g. $(\text{EtO})_2\text{P}$ and 23.9 g. $\text{BrCH}(\text{CO}_2\text{Et})_2$ 3 hrs. on a steam bath gave 1.1 g. $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CO}_2\text{Et})_2$, m. $160-1^\circ$, 1.4420, 1.4600; similarly $\text{ClCH}(\text{CO}_2\text{Et})_2$ and $(\text{EtO})_2\text{P}$ after 3 hrs. on a steam bath gave the same product, $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CO}_2\text{Et})_2$, m. $150-1^\circ$, 1.4410, 1.4644. Reaction of 10 g. $(\text{EtO})_2\text{P}(\text{O})\text{Cl}$ with Na gave from 1.3 g. Na and 9.2 g. $\text{CH}_2(\text{CO}_2\text{Et})_2$ in Et₂O gave after 10 hrs. refluxing 5 g. $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CO}_2\text{Et})_2$, m. $159-60^\circ$, n_D 1.4468. This (1.4 g. and 2 g. $\text{CO}(\text{NEt}_2)_2$ as above gave 0.48 g. $(\text{EtO})_2\text{P}(\text{O})\text{CH}(\text{CO}_2\text{Et})_2$.

A. N. Pudovik & T. M. Mashkina

(CONH)₂CO, m. 97°; the phosphonate from an alternate route gave the same product, m. 98°. To Na deriv from 3 g. Na and 10 g. C₆H₅Ac₂ was added 15 g. (EtO)₂POCl in H₂O and after refluxing 12 hrs. the filtrate gave 6.8 g. (EtO)₂P(O)CH₂Ar, b_p 161-2°, n_D²⁰ 1.4323. Refluxing 2 g. of this with 3 g. CO(NH₂)₂ in dioxane and dry EtONa 19 hrs., dissolving the ppt. in H₂O, acidifying with HCl and

concs. gave 0.4 g. (EtO)₂P(O)C(CMe)₂NH.CO.N:CMe, m. 115-17° (EtOH). XVIII. Reaction of incomplete esters of acids of phosphorus with α,β-unsaturated cyclic ketones and cyclohexyl acetate. A. N. Pudovik and I. V. Kononova, 1946, 1517-21. Addn. of (RO)₂POH or (RO)₂POH to 2-cyclohexenone and its methylated analogs occurs readily after addn. of catalytic amts. of RONa; after termination of the exothermic reaction, the mixts. were neutralized with AcOH and distd., yielding the following esters: di-Et 3-oxocyclohexylphosphonate, 54%, b_p 170°, n_D²⁰ 1.2940, d₄ 1.2110; di-Me ester, 26%, b_p 160°, 1.4723, 1.2131; di-Et 3-oxocyclohexylthiophosphonate, 57%, b_p 182°, 1.4099, 1.1307; di-Me 3-oxo-2-methylcyclohexylphosphonate, 55%, b_p 162° in 95°; di-Et ester, 50%, b_p 168°, 1.4612, 1.1007; di-Et 3-oxo-2-methylcyclohexylthiophosphonate, 50%, b_p 165°, 1.4938, 1.1099; di-Me 3-oxo-1-methylcyclohexylphosphonate, 47%, b_p 162°, 1.4721, 1.1801; di-Et ester, 54%, b_p 167°, 1.4653, 1.1130; di-Et 3-oxo-1-methylcyclohexylthiophosphonate, 53%, b_p 172°, 1.4940, 1.1182; di-Et 3-oxo-2,5-dimethylcyclohexylphosphonate, 50%, b_p 182°, 1.4010, 1.0810; di-Me ester, 50%, b_p 165°, 1.4790, 1.1499; di-Et 3-oxo-2,5-dimethylcyclohexylthiophosphonate, 56%, b_p 173°, 1.4921, 1.0940; di-Et 3-oxo-2,5-dimethylcyclohexylphosphonate, 59%, b_p 166°, 1.4580, 1.0189; di-Et 3-oxo-2,5,5-trimethylcyclohexylphosphonate, 50%, b_p 167°, 1.4641,

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A. N. Pudovik + T. M. Moshkin

1.0710. Addition of satd EtONa-EtOH dropwise to 10.5 g. EtO_2FOH and 10.5 g. 1-cyclohexenyl acetate gave a very exothermic reaction which resulted after cooling and acidification, in isolation of 5 g. cyclohexanone and 12 g. MeC(OAc)(POUEt)_2 , b. 174-5.5°, d_4^{20} 1.1611, n_D^{20} 1.4328. The latter product formed along with 2-methylcyclohexanone in a similar reaction of 2-methylcyclohexenyl acetate. To 10 g. AcPOUEt_2 and 15 g. EtO_2FOH was added dropwise EtONa-EtOH and after the strongly exothermic reaction there formed 20 g. l. b. 180°, d_4^{20} 1.1535, n_D^{20} 1.4300; I heated with BzCl in PhNMe , 1 hr. at 50° was benzoylated to the extent of but 5.8%. Reaction of 6.3 g. 1-cyclohexenyl acetate with 7 g. $\text{(EtO)}_2\text{PSH}$ in the presence of EtONa as above gave 3 g. cyclohexanone and 9.8 g. product, b. 189°, 1.1421, 1.4710, identified as $\text{MeC(OAc)(PS(OEt))}_2$. The latter, b. 168-70°, 1.1410, 1.4710, also formed along with 2-methylcyclohexanone in a similar reaction of 2-methylcyclohexenyl acetate. G. M. K.

EM

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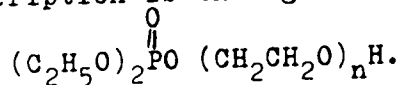
S/019/61/031/012/006/011
D258/D301

AUTHORS: Pudovik, A. N., and Moshkina, T. M.

TITLE: Polyethylene glycols and some of their derivatives

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 12, 1961, 4028-4033

TEXT: The authors synthesized several polyethylene glycols of the general formula $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_n\text{H}$ and the esterification products of these with either one or two molecules of $(\text{C}_2\text{H}_5\text{O})_2\text{POCl}$ and ClCH_2COCl (separately). The products were assumed to be useful as plasticizers in producing materials for motion pictures, as surfactants and as tanning agents. The molecular weights of the lower glycols were determined by cryoscopy. The glycols are soluble in alcohol, benzene, dioxane and water; their solubility in ether decreases with increasing molecular weight. A description is then given of the preparation of monophosphate esters



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Polyethylene glycols and ...

3/079/61/031/012/006/011
D258/D301

The principal characteristics of the synthesized polyethylene glycols (I) and their monophosphates (II), diphosphates (III), monochloroacetates (IV) and dichloroacetates (V) are given in tabulated form. There are 1 figure, 3 tables and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: R. Forgyce, H. Lovell and H. Hibbert, J. Am. Chem. Soc., 61, 1905, (1939).

ASSOCIATION: Kazanskiy filial nauchno-isslyedovatel'skogo kino-fotoinstitutu (Kazan Branch of the Scientific Research Moving Picture Photography Institute)

SUBMITTED: December 26, 1960

Card 2/2

57899
S/079/62/032/005/008/009
D204/D307

53600
AUTHORS:

Moshkina, T.M., and Pudovik, A.N.

TITLE:

Synthesis of glycol diphosphates and of certain derivatives of phosphinic acids

PERIODICAL:

Zhurnal obshchey khimii, v. 32, no. 5, 1962, 1671-1675

TEXT: A series of diphosphates of ethylene, diethylene and tetraethylene glycols, 1,4-butanediol, β -thiodiglycol, N-methyl diethanolamine and nitropropylene glycol was synthesized, owing to the potential application of such compounds as plasticizers. Two methods were used, giving 25 - 75 % yields: (1) Dialkyl (or diaryl) phosphoric chloroanhydrides were added dropwise to an ethereal solution of the appropriate glycol, in the presence of pyridine, at 0-5°C. The mixture was stirred for a further 1 hr. at 25 - 50°C. Pyridine hydrochloride was filtered off, the filtrate washed with water, which was then frozen out, and the ether was removed by distillation. (2) Phosphorus oxychloride was added to cooled glycols (0 - 50°C) and the mixture was stirred for 1 hr., removing the HCl formed. The resulting dichloroanhydride was added dropwise to the appropriate alcohol. Card 1/2

S/079/62/032/005/008/009
D204/D307

Synthesis of glycol diphosphates ...

cohol, with mixing and cooling, stirring for 5 - 6 hrs. to complete the reaction. HCl was then pumped off. The diphosphates thus produced, were colorless or yellowish, viscous liquids soluble in organic solvents, but generally not in water. Mixtures of the diphosphates with cellulose acetate tended to swell, especially on heating to 120°C. A series of compounds $(ROCH_2CH_2O)_2P-CH_2-\underset{\underset{O}{|}}{CH}-COOR'$ was also

obtained, in 25 - 63 % yields, by the addition of di(β -alkoxyethyl) phosphorous acids to methyl and butyl methacrylates and to methacrylic nitrile. The reagents were mixed in equimolar proportions, saturated Na alcoholate was added and the mixtures were heated for 15 - 20 min. on a water bath. The products, which were separated by vacuum distillation, were colorless liquids, soluble in organic solvents and in some cases also in water, showing a greater degree of compatibility with cellulose esters than the diphosphates. There are 5 tables.

ASSOCIATION: Kazanskiy filial nauchno-issledovatel'skogo Kinofoto-instituta (Kazan' Branch of the Scientific Research Institute of Motion Picture Photography)

Card 2/2

SUBMITTED: April 25, 1961

PUDOVIK, A.N.; MOSHKINA, T.M.; KRUPNOV, G.P.; BUKIN, A.I.; SEMENOVA, L.A.;
Prinimali uchastiye: KOSTYUKOVA, L.A., laborant; PETROVA, M.G.,
laborant; TEMIRBAYEV, A.M., inzh.; FAYZULLIN, A.Yu., inzh.; PCLOZOVA,
L.P., laborant; NAZAROVSKAYA, G.V., laborant

Synthesis and study of organophosphorus plasticizers for the tri-
acetate film bases. Trudy NIKFI no.46:17-25 '62.

(MIRA 18:8)

L 14945-63

EWP(j)/EPF(o)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3003799

S/0190/63/005/007/1106/1110

AUTHORS: Moshkina, T. M.; Pudovik, A. N.

TITLE: Polyethyleneglycols and their derivatives

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 7, 1963, 1106-1110

TOPIC TAGS: polyethyleneglycol , ethylene oxide polymer , ethylene glycol , mono-chloroacetate

ABSTRACT: Polymerization of ethylene oxide was conducted in flasks containing 0.08 Mol ethyleneglycol, 30 ml benzene, and 0.0008 Mol boron trifluoride etherate, through which ethylene oxide was bubbled at 40-45C for a period of 15-17 hours. The obtained polymers were waxy white compounds. These were fractionated by fractional precipitation with ethyl ether from 2% benzene solutions. The polymerization coefficients of the fractions, averaging 40-60, were determined from viscosimetric measurements in dioxane solution by Ostwald's method. The synthesis of polyethyleneglycol-monochloroacetates was achieved by slowly adding to polyethyleneglycol at 0C an equimolar quantity of chloroacetic acid, the resulting products representing highly viscous fluids or vaseline-like masses, soluble in ethanol, benzene, dioxane and carbon tetrachloride. When used as a catalyst in the polymerization of

Card 1/2

L 14945-63

ACCESSION NR: AP3003799

ethylene oxide, products with a 50-70 polymerization coefficient were obtained. A still higher polymerization coefficient of 65-85 was recorded when diethyl phosphate replaced boron trifluoride etherate in a similar setup. Orig. art. has: 2 formulas and 2 charts.

ASSOCIATION: Kazanskiy filial nauchno-issledovatel'skogo kinofoto-institut (Kazan
Division of Scientific Research, Kinophoto Institute)

SUBMITTED: 17Jan62

DATE ACQ: 08Aug63

ENCL: 00

SUB CODE: CH

NO REF SOV: 004

OTHER: 007

Card 2/2

BORIN, A.V.; MOSHKINA, T.M.; MISHAKOVA, M.V.; SHAYMARDANOVA, L.R.

Sensitizing effect of some polyethylene glycols. Zhur. nauch.
i prikl. fot. i kin. 8 no.3:211-212 My-Je '63. (MIRA 16:6)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofoto-
instituta, Kazan'.
(Glycols) (Photographic emulsions)

KOSHKINA, T.M.; PUDOVIK, A.N.

Polycethylene glycols and their derivatives. Vysokom. soed. 5 no. 1.
1106-1110 J1 '63. (M. A. 1106)

1. Kazanskiy filial Nauchno-issledovatel'skogo kinofotoinstituta.
(Glycols) (Ethylene polymers)

PUDOVIK, A. N.; MOSHKINA, T. M.; KHRAMTSOVA, V. P.

Diazephosphinic and hydrazediphosphinic esters. Zhur. ob.
khim. 33 no.1:94-97 '63. (MIRA 16:1)

1. Kazanskiy filial Nauchno-issledovatel'skogo kinofotoinstituta.

(Phosphinic acid) (Diaz compounds)
(Hydrazo compounds)

L 10185-66 EWT(m)/EWP(j) RM

ACC NR: AP5028480

SOURCE CODE: UR/0286/65/000/020/0064/0064

AUTHORS: ^{44,55}Moshkina, T. M.; ^{44,55}Pudovik, A. N.; ^{44,55}Krupnov, G. P.; ^{44,55}Bukin, A. I.; ^{44,55}Semenova, L. A.

ORG: none

TITLE: Method for obtaining plasticized ester-cellulose films, for instance, triacetate cellulose films. Glass 39, No. 175646¹⁸ [announced by All-Union Scientific Research Motion Picture Institute (Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut)] ^{44,55}

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 64

TOPIC TAGS: polymer, plasticizer, plastic compound, plastic material, plastic, film

ABSTRACT: This Author Certificate presents a method for obtaining ester-cellulose films, for instance, triacetate cellulose films, by introducing esters of polybasic acids into a solution of cellulose triacetate. To increase the variety of plasticizers, esters of phosphonoacetic acid are used as the plasticizing agent.

SUB CODE: 11/ SUBM DATE: 13Jun64

Card 1/1

UDC: 678.544.43 678.049.13.002.2

L 27758-66 EWT(m)/EWP(j) RM
ACC NR: AP6018509

SOURCE CODE: UR/0079/65/035/011/2042/2046

AUTHOR: Moshkina, T. M.; Pudovik, A. N.

ORG: none

TITLE: Phosphorus-containing azo-¹ and hydrazo-compounds

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 2042-2046

TOPIC TAGS: organic azo compound, organic synthetic process, organic phosphorus compound, organic nitrile compound, hydrazine derivative, ester

ABSTRACT: The azo combination of aromatic diazo compounds with a number of organophosphorus compounds containing an activated methylene group: phosphonoacetic ester, phosphonoacetone, and phosphonoacetonitrile was carried out under mild conditions in the absence of catalysts. Some properties of the phosphorus-containing azo-compounds synthesized were studied. They decompose gradually during storage with an evolution of nitrogen; the decomposition process is substantially accelerated at increased temperature (above 50°), with an evolution of nitrogen and a further resinification of the products formed. The azo-compounds obtained are highly sensitive to the action of acids and alkalis, yielding a vigorous evolution of nitrogen, accompanied by partial decomposition and resinification of the products when treated with dilute hydrochloric

Card 1/2

UDC: 547.467/8

L 27758-66

ACC NR: AP6018509

acid or soda solution at room temperature. Direct reduction of benzenesoxo-(diethylphosphonocarbethoxy)methanol in alcohol solution in the presence of Raney nickel at 50-60° yielded N-phenyl-N'-(diethylphosphonocarbethoxy)-methylhydrazine. The N=N double bond, activated by the phosphinic group, is capable of addition reactions: addition of acetoacetic, malonic, and cyanoacetic esters to esters of phenyl- and p-nitrophenylazophosphinic acids produced the corresponding hydrazophosphoric esters and in a number of cases nonphosphorus-containing products of unestablished structure. Orig. art. has: 2 tables and 3 formulas. [JPRS]

SUB CODE: 07 / SUBM DATE: 14Jul64 / ORIG REF: 004/ OTH REF: 001

Card 2/2 *Sp*

L 26689-66 EWT(m)/EWP(1) JW/RM

ACC NR: AF6016902

SOURCE CODE: UR/0020/65/163/006/1401/1403

AUTHOR: Hoshkina, T. K.; Fudovik, A. N. (Corresponding member AN SSSR); Zil'berman, L. V.

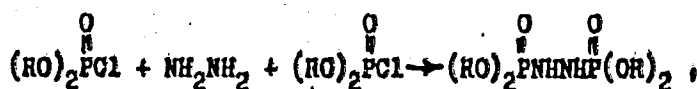
ORG: Kazan' State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Phosphorus-containing hydrazo- and azo-compounds

SOURCE: AN SSSR. Doklady, v. 163, no. 6, 1965, 1401-1403

TOPIC TAGS: organic phosphorus compound, ester, hydrazine, hydrazine derivative

ABSTRACT: The authors synthesized esters of azodiphosphoric acid and studied their capacity for addition reactions. In synthesizing esters of azodiphosphoric acid containing aliphatic radicals in ester groups, the authors used the method of oxidizing esters of hydrazodiphosphoric acid. The tetraalkyl esters of hydrazodiphosphoric acid were obtained by a reaction of dialkylphosphoric acid chlorides with hydrazine



Card 1/2

L 26689-66

ACC NR: AP6016902

where R = C_2H_5 , $n-C_4H_9$, $n-C_6H_{13}$, $n-C_8H_{17}$. Reactions of diethyldibutylchlorophosphates with hydrazine were carried out in ether solution at $25 - 30^\circ$, and with dihexyl- and dioctylchlorophosphates -- at $40 - 45^\circ$. Symmetrical hydrazodiphosphoric esters were isolated from the reaction mixture and purified by fractional precipitation from benzene solutions with hexane or with petroleum ether. Precipitation was repeated several times. The yield of tetraalkyl esters of hydrazodiphosphoric acid was 60 - 80%. It was found that tetraalkyl esters of azodiphosphoric acid are electrophilic compounds capable of facile and quantitative addition of nucleophilic reagents.

Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 06Mar65 / ORIG REF: 003 / OTH REF: 003

Card 2/2 BLG

L 04095-67 EWP(j)/EWT(1)/EWT(m)/T IJP(c) RM

ACC NR: AR6023276

SOURCE CODE: UR/0058/66/000/003/D124/D124

AUTHOR: Pudovik, A. N.; Moshkina, T. M.; Krupnov, G. P.; Bukin, A. I.; Semenova, L. A.

TITLE: Plastification of triacetate celluloid films by mixed phosphoric-acid ethers

SOURCE: Ref zh. Fizika, Abs. 3D1028

REF SOURCE: Tr. Vses. n.-i. kinofotoin-ta, vyp. 52, 1965, 5-16

TOPIC TAGS: photographic film, plasticizer

ABSTRACT: The authors investigated the plastification of triacetate films by mixing phosphoric-acid ethers. It is shown that at least some diphosphates of diethylene glycol result in better mechanical film properties than the previously used mixture of triphenyl phosphate and dibutyl phthalate. However, in the presence in them of aliphatic radicals, their compatibility with the film deteriorates with increasing length of the radical. To improve the compatibility, one can introduce cyclic radicals, Cl atoms, and alcoxyl groups into the ether groups. The most effective for the compatibility are the latter, and they also improve noticeably the physical and mechanical properties of the films. A. Karuzhanskiy. [Translation of abstract]

SUB CODE: 14

kh

Card 1/1

L 3610-66 INT(4)/EXP(1) IJP(s) BB/GG
ACC NR: AR5014365

SOURCE CODE: UR/0271/65/000/005/B057/B058

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika.
Svodnyy tom, Abs. 5B422

AUTHOR: Breydo, M. D.⁴⁴; Goncharov, A. M.⁴⁴; Zheglova, N. V.⁴⁴
Zarnitsyn, G. D.⁴⁴; Kotel'nikov, I. V.⁴⁴; Mushkina, T. V.⁴⁴; Tarantovich, A. S.⁴⁴

TITLE: TEVM digital computer

CITED SOURCE: Tr. po vopr. primeneniya elektron. vychisl. mashin v nar.
kh-va. Gor'kiy, 1964, 171-173

TOPIC TAGS: digital computer, industrial digital computer

TRANSLATION: The TEVM digital computer is intended for planning operation and route flowsheets on the basis of developed algorithms and for other functions connected with processing. The necessity of storing the characteristics of the product is a special feature of the machine; the volume of this information is rather large. The TEVM machine has three addresses and operates on a fixed-

Card 1/2

UDC: 631.142.343

L 8610-66
ACC NR: AR5014365

after-18-digit-point system. There are 48 digits in a word (one number or one instruction). An operation code takes 6 digits. Special routine also takes 6 digits; the balance is divided among the three addresses. The computer has 4 types of storage: (1) an internal magnetic storage for 512 words with an access time of 6 microsec; (2) an intermediate magnetic-drum storage for 1024 words with an average access time of 10 millisec; (3) a nonvolatile magnetic-drum storage for information readout with a capacity of 2048 words and an average access time of 10 millisec; (4) a magnetic tape of 100 000-word capacity. The working frequency of the computer is 25 kc; the synchronization depends on the magnetic drum. A total of 39 instructions can be carried out, and the average speed is 1500 operations per sec. The adder is of the trigger-register type with a high-speed carry, no shift. Data photo input reads from a telegraph tape; manual keyboard input is also provided. A 20-number-per-sec output uses a printer. The computer comprises 4000 transistors and takes 3 kw. It occupies an area of 15 m². Bib. 7, fig. 1.

SUB CODE: 09

Card 2/2 jrn

~~MOSEKINA, Y.A.~~

Preparing materials with a low content of tin for treatment by the
method of low temperature chlorination. Biul. TSIN tsvet. met. no.4:
24-27 '58. (MIRA 11:5)

(Tin ores) (Chlorination)

36937
S/136/62/000/004/002/004
E193/E583

18.3100

AUTHORS: Moshkina, V.A., Pokrovskiy, V.V. and Repkin, D.I.

TITLE: Remelting tin-plant dusts as means of increasing the indium concentration

PERIODICAL: Tsvetnyye metally, no. 4, 1962, 61 - 63

TEXT: The normal procedure in pyrometallurgical extraction of tin is to recirculate dusts from electrostatic filters, as a result of which the indium content in this by-product increases, reaching a value which can vary from several hundredths to several tenths of a %. A reducing roasting method of extracting indium from the product, developed by A.S. Sinakevich and M.Ya. Chernyavskoy and based on different reduction potentials and sublimation pressures of tin, zinc and indium oxides, appeared most promising when used on a laboratory scale but did not give satisfactory results under industrial conditions. Frequently, partial fusion of the charge occurred, as a result of which only a small portion of indium was recovered in the gaseous phase. This was due to too high a tin content in the dust and wide variation of the concentration of other components from one Card 1/4

Remelting tin-plant dusts

S/136/62/000/004/002/004
E193/E383

batch of tests to another.- hence the attempt described in the present paper to reduce the tin content in the dusts, to increase their indium content and to ensure a more consistent concentration of other components by remelting the primary dusts in an electrical furnace and producing secondary dusts to be treated by the process described above. The experimental material (primary dusts) contained 0.137% In, 38.7% Sn 7.9% soluble and 28.8% insoluble in HCl), 2.17% Pb and traces of metallic Cd and silicon, calcium, aluminium and iron oxides. Coal and coke fines were used as the reducing agents, calcium oxide with a lime content of 75.54% being used as the flux. . Each charge consisted of 81% primary dust, 0% coal, 3% coke fines and 3% lime. After mixing, moisture was introduced into the charge which was then converted to granules 5 - 20 mm in size and remelted in an electric furnace at 450 - 500 °C. Typical results are given in Tables 1 and 2. It will be seen that as a result of this treatment, the Zn and In contents of the starting material were increased 2.4 and 2.8 times, respectively, the Sn content being decreased by a factor of 2.3.

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Remelting tin-plant dusts

S/136/62/000/004/002/004
E193/E383

No fusion of the charge occurred when the product obtained by remelting was subjected to reducing roasting, and 90 - 95% recovery of indium was attained.

There are 1 figure and 2 tables.

Key to Table 1 : 1 - Products of remelting; 2 - Sn, soluble in HCl; 3 - Sn, insoluble in HCl; 4 - Secondary dust; 5 - Scrubber slime; 6 - metal; 7 - Slag; 8 - Difficultly meltable residue.

Table 1: Composition of the products of remelting primary dusts

| ① Продукты плавки | In | Sn | ② Sn, растворимое в HCl | ③ Sn, нерастворимое в HCl | Zn | Pb | As | Cd | CaO | Fe ₂ O ₃ | SiO ₂ |
|----------------------|--------|-------|----------------------------------|------------------------------------|-------|------|------|------|------|--------------------------------|------------------|
| ④ Вторичная пыль | 0,388 | 16,8 | 11,33 | 5,47 | 39,95 | 0,96 | 1,3 | 0,45 | — | — | — |
| ⑤ Шлам скруббера | 0,24 | 20,71 | 12,05 | 8,66 | 47,88 | 0,92 | 1,08 | — | — | — | — |
| ⑥ Металл | 0,152 | 90,4 | — | — | 0,39 | 2,4 | 3,96 | — | — | — | — |
| ⑦ Шлак | 0,0061 | 1,3 | — | — | 1,79 | 0,14 | Her | — | 17,9 | 7,11 | 34,22 |
| ⑧ Гартлинг | — | 24,03 | — | — | 7,5 | 1,03 | 0,98 | — | — | — | — |

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X

Remelting tin-plant dusts S/136/62/000/004/002/004
E195/E583

Table 2: Distribution of components in the products of melting, %

Key: 1 - Products of remelting; 2 - Secondary dust;
3 - Scrubber slime; 4 - Metal; 5 - Slag; 6 - Difficultly
meltable residue; 7 - Total; 8 - Losses.

| ① Продукты плавки | In | Sn | Pb | As |
|-------------------|------|-------|------|------|
| ② Вторичная пыль | 48.6 | 7.5 | 11.6 | 10.2 |
| ③ Шламы скруббера | 9.3 | 1.3 | 1.6 | 1.2 |
| ④ Металл | 40.6 | 86.3 | 62.0 | 65.9 |
| ⑤ Шлак | 1.2 | 1.1 | 3.2 | — |
| ⑥ Гартлинг | 4.5 | 2.55 | 3.0 | 1.8 |
| ⑦ Итого | 90.2 | 98.75 | 81.4 | 79.1 |
| ⑧ Потери | 0.8 | 1.25 | 18.6 | 20.9 |

Card 4/4

L 8145-66 EWT(a)/EWP(b)/EWP(t) IJP(c) JD/JG/JW

ACC NR: AP5027208

SOURCE CODE: UR/0078/65/010/011/2477/2483

AUTHOR: Fridman, Ya. D.; Moshkina, V. A.; Gorokhov, S. D.; Nitsevich, E. A.

ORG: None

TITLE: Formation and thermal decomposition of ²¹yttrium ²¹fluoride and ⁴¹carbonate ^B

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 11, 1965, 2477-2483

TOPIC TAGS: fluoride, carbonate, yttrium compound, thermal decomposition, sodium compound

ABSTRACT: A study was made of the reaction of yttrium fluoride with sodium carbonate in the temperature interval from 150 to 900 C, and of the thermal decomposition of yttrium fluoride and carbonate. The reaction was studied by thermogravimetric and thermographic methods. In the thermogravimetric investigations, weighed amounts of the salts were mixed in a platinum crucible and held in a muffle furnace at a given temperature to constant weight (from 15 to 25 hrs). The decomposition products were analyzed and their composition determined. The thermographic investigations were made in a Kurnakov pyrometer using platinum-platinum rhodium thermocouples. Weighed portions of the salts

Card 1/3

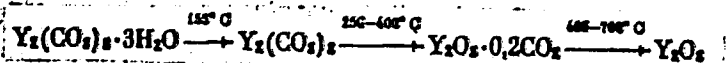
UDC: 546.643.161+546.643.1264

0722-022

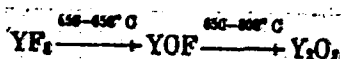
L 8146-66

ACC NR: AP5027208

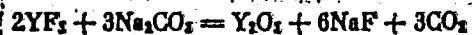
(0.5-1.0 grams) were mixed in a silver crucible into which the junctions of the thermocouples were inserted directly. The heating time to the maximum temperature was 3-5 hours. Results showed that yttrium carbonate dissociates in the temperature interval 155-700 C according to the following scheme:



Yttrium fluoride dissociates in the temperature interval 450-800 C according to the scheme:



with the formation of intermediate products. Results of the reaction of yttrium fluoride with sodium carbonate permit the deduction that in the temperature interval 550-700 C the reaction in the system corresponds to the overall equation:



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L 8146-66

ACC NR: AP5027208

0
In the temperature interval 800-850 C, with an excess of sodium carbonate, Na_2CO_3 reacts with yttrium oxide with the probable formation of compounds with the composition NaYO_2 . Orig. art. has: 10 figures and 5 tables.

SUB CODE: GC, IC/ SUBM DATE: 21Apr64/ ORIG REF: 008/ OTH REF: 003

jw

Card 3/3

1. BLYUMENFEL'D, L. A., KRASOVITSKAYA, S. YE., MOSHKORSKIY, SH. D.
2. USSR (600)
4. Malarial Fever
7. Effect of paludrine on the functioning of hemoglobin. Dokl AN SSSR No. 3 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ALYAYEV, A.; MOSHKOV, A., inzh.

An efficient type of ship for transporting mineral building
material freight. Rech.transp. 23 no.11:26-28 N 164.

(MIRA 18:3)

1. Nachal'nik Gor'kovskogo Tsentral'nogo konstruktorskogo byuro
Ministerstva rechnogo flota (for Alyayev).

NOSHIKOV, A. D.

Issledovanie pronitsaemosti masla cherez pory metallo-keramicheskikh podshipnikov.
(Vestn. Mash., 1950, no. 12, p. 15-16)

Study of oil penetrability through the pores of metal and ceramic bearings.

DLC: TML.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library
of Congress, 1953.

MOSHEV, A.D., kandidat tekhnicheskikh nauk, dotsent.

Problem of using porous bearing materials. Trudy TASHIIT no.5:
116-122 '56. (MIRA 9:12)
(Powder metallurgy)

Moshkov, A. D.

AUTHORS: Moshkov, A. D., and Aref'yev, V. I.
TITLE: Electrical Spring Dynamometer for Measuring Moment of Friction
(Elektropruzhinnyy dinamometr dlya izmerenniya momenta treniya)
PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, No. 1, pp. 102-103
ABSTRACT: The authors compare various systems of measuring the moment of friction, such as dynamometers operating with springs or weights. The weights are found to give more accurate results but to be very time-consuming. They describe a new dynamometer developed by them which uses electrical principles similar to those of the selsyn for recording the moment of friction produced by a spring. A diagram showing the principle of this dynamometer is presented. Tests showed that for moment of friction up to 90 kg/cm the accuracy of recording was $\pm 0.5\%$.
ASSOCIATION: Tashkent Institute of Railroad Transportation Engineers
(Tashkentskiy institut inzhenerov zheleznodorozhnogo transporta)

Card 1/2

Electrical Spring Dynamometer for Measuring Moment
of Friction

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

25(2)

PHASE I BOOK EXPLOITATION

SOV/252

Moshkov, Aleksey Dmitriyevich, and Yakov Viktorovich Uspenskiy

Tekhnologiya proizvodstva i primeneniye poristyykh podshipnikov (Manufacture and Use of Porous Bearings) Moscow, Mashgiz, 1959. 81 p. 8,000 copies printed.

Ed.: I. F. Belyayev, Candidate of Technical Sciences; Exec. Ed. (Ural-Siberian Division, Mashgiz): L. A. Kon'shina, Engineer; Tech. Ed.: N. A. Dugina.

PURPOSE: This book is intended for engineering and technical personnel.

COVERAGE: The authors discuss theoretical principles of manufacturing porous materials for plain bearings. They present results of an experimental investigation of the effect of operating parameters on the physical and mechanical properties of copper-and iron-base porous materials. Practical recommendations for organizing production processes are made, and the use of porous bearings in machinery manufacture is described. Chapter II was written by Ya. V. Uspenskiy, Chapters V, VI, VII, and VIII by A. D. Moshkov, and the remainder by both authors. There are 94 references: 55 Soviet,

Card 1/3

Manufacture and Use of Porous Bearings

SOV/2520

27 English, and 12 German.

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Preface

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| Ch. I. Developement of the Powder Metallurgy of Porous Metals | 3 |
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| | 49 |

Card 2/3

Manufacture and Use of Porous Bearings

SOV/2520

Ch. VII. Investigations in the Field of Friction and Wear of Porous Materials

60

Ch. VIII. Use of Porous Materials in Machinery Manufacture

68

Bibliography

79

AVAILABLE: Library of Congress

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QO/mg
11-12-59

KOSHEKOV, A.D.

Self-lubricating effect in the operation of porous bearings.
Izv. AN Uz. SSR. Ser. tekhn. nauk no.4:63-71 '59. (MIRA 13:1)

1. Tashkentetskiy institut inzhenerov zheleznodorozhnogo transporta.
(Lubrication and lubricants)
(Bearings (Machinery))

S/122/61/000/010/011 111
D221/D304

AUTHOR: Moshkov, A.D., Candidate of Technical Sciences. Doc.

TITLE: Porous materials with antifrictional properties

PERIODICAL: Vestnik mashinostroyeniya, no. 10, 1961, 72 -

TEXT: The effect of self-lubrication is revealed during heating of bearings which leads to a rise in the maximum allowed loads, when all other conditions remain same. Rise of temperature due to work brings out oil on account of the different bulk expansion of oil and metal. Thickness of film h_t is determined by $h_t = AC(\beta_o - \beta_p)(t_1 - t_o)$, where A is the relative porosity; C is a constant related to size of bearing; K is a coefficient that takes into account the irregularity of porosity; β_o and β_p are coefficients of cubical expansion of oil and the porous material; t_1 and t_o are the initial and final temperatures of bearing. The relationship between film thickness and relative porosity at different temperature is plotted.

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S/022/61/000/010-011

Porous materials with antifrictional ... D221/D304

The laboratory investigations of porous and compact materials on the X2-M (Kh2-M) machine revealed that compact bronze bearings are characterized by wear and appearance of seizure, whereas porous materials are characterized by abrasive wear. Tests carried out by the author established the effect of grain size of powders, and methods of sintering. Maximum wear resistance is obtained with pearlitic and ferritic-pearlitic structures. Introduction of phosphorus improves the wear strength of iron base materials, as demonstrated by tests on the MI-4 (MI=4) machine. Profilograms obtained on the M3P-11 (IZ) instrument indicate that phosphorus promotes anti-seizure properties and improves the running-in of porous iron-graphite. This is due to diffusion of phosphorus in the iron and aluminum, and its disposition in the form of eutectic Fe-Fe₃P. The porosity is determined by the factor of relative porosity $A_o = (\gamma_c - \gamma_p / \gamma_c)$, where γ_c is the porosity of compact metal used for making bearings, γ_p is the porosity of porous material. The author discussed the process of filtration and also indicates the relationship between filtration and porosity. When no additional oil is used, the

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Porous materials with antifrictional ... S/122/61/000/010/011/011
D221/D304

-dry (boundary) friction takes place, which ensures normal operation at low loads for relatively long periods. These conditions are defined by p.v - up to 10 kg/cm². Large pores and high relative porosity are then advisable, together with periodic addition of constant oil. Regular oil feed is required whenever large loads and high speeds are present. Small porosity and low relative porosity are then recommended. The iron base materials can replace ferrous metals with great advantage. There are 12 figures and 8 references: 7 Soviet-bloc and 5 non-Soviet-bloc. The reference in English-language publication reads as follows: Walter J. Saez, course in powder metallurgy, New York, 1945.

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tekh. red.

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iznos poristyykh materials]Trenie i iznos poristyykh metallo-
keramicheskikh materialov. Tashkent, Gosizdat UzSSR, 1962.

101 p.

(MIRA 15:11)

(Ceramic metals)

(Mechanical wear)

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2. USSR 600

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2

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Pediatria no.11:12-17 N '57. (MIRA 11:2)

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1119

Photoperiodism and a hypothesis as to hormones of flowering. B. S. Moshkov. *Comp. rend. acad. sci. R. S. S. 15: 217 (1967) (in English)*. The flower-producing substance, which, prior to its isolation, can only provisionally be considered a flower-producing hormone, is synthesized by the leaves of mature plants which have previously passed through all the necessary stages of their development. The leaves of some "short day" species synthesize this substance only under conditions of definite, optimum photoperiods, while leaves of other species synthesize it also under continuous illumination. Leaves of short-day plants under conditions of a short day and of long-day plants under conditions of a long day synthesize one and the same flower-producing substance. In order that this flower-producing substance be transferred from the scion to the stock, a very weak union of their external tissues is sufficient. It may be assumed that this substance is conveyed within the plant not by the usual channels but directly from cell to cell by osmotic processes. By application of the flower-producing substance of mature plants by different kinds of grafts and various injections, the flowering of seedlings of woody species can be accelerated. Felix Saunders

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| PROCESSING AND PROPERTY MARK | | | |
| AM | <p>Moskova (Moskova) (B. S.). <i>Photoperiodism and immunity</i>.—U. S. Acad. Sci. U.R.S.S., N.S., xix, 9, pp. 751-754, 1 fig., 1 graph, 1958.</p> <p>In experiments on photoperiodism the author observed variations in the degree of infection of the test plants by diseases under the different conditions, particularly in the case of rose mildew (<i>Sphaerotheca pannosa</i>), gooseberry mildew (<i>S. mors-uvae</i>), and cereals affected with brown rust (<i>Puccinia triticina</i>) and mildew (<i>Erysiphe graminis</i>). In a study on the relationship between photoperiodic conditions and the development of infection of black-currant leaves by <i>Crenospora ribicola</i> [R.A.M., xvii, p. 758], exposure of the leaves for periods of 10 to 17 hours each day resulted in different degrees of infection by the fungus. Leaves exposed for more than 17 hours remained perfectly clean, those given 17-, 16-, 15-, 14-, 13-, 12-, 11-, and 10-hour days showed 5, 10, 50, 75, 100, 40, 10, and 5 per cent. of the leaf surface affected, respectively, and those exposed for less than 9 hours a day remained uninjured throughout the whole season. This explains why under natural conditions in Leningrad the teleutospores of <i>C. ribicola</i> develop only in the autumn, when the day length is less than 16 hours. From these data the author concludes that immunity of plants from fungus parasites may depend upon the changes in the leaves induced by photoperiodic conditions.</p> | | |
| | <p>AGM-564 BOTANICAL LITERATURE CLASSIFICATION</p> <p>FROM SYNOPSIS</p> <p>100000 100 000 000</p> <p>100000 100 000 000</p> <p>100000 100 000 000</p> | | |
| <p>AGM-564 BOTANICAL LITERATURE CLASSIFICATION</p> <p>FROM SYNOPSIS</p> <p>100000 100 000 000</p> <p>100000 100 000 000</p> <p>100000 100 000 000</p> | | | |

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Mbr., Lab. of Physiology and Biochemistry; All-Union Plant Breeding Inst., Pushkin,

-1939- Inst. of Plant Industry, Section of Rubber Yielding Plants,

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CHANGES IN ALKALOID CONTENT IN LUPINE GRAFTS. M. I. Samonova and H. S. Moshkov. *Soviet Plant Ind. Review* 1940, No. 2, 66-77 (in English, 76-7). - The alkaloid (I) accumulates in the seed by migration from the leaves; the removal of the upper leaves, richer in I results in seed with a lower I; the leaves remain green during the entire vegetative period, when the buds are removed, with 0.26% of I, against 0.041 in the control plant leaves. Different varieties of lupines, contg. 0.010-3.4% of I, were grafted to one another in the budding (II), and the cotyledon stage (III). The sweet lupine scion (IV), graft III, showed an increase to 0.049% from 0.019; a more marked increase, to 0.321 took place in IV, graft II, when the leaves were still in full view. Narrow-leaved, latter lupine grafts showed a slight decrease of I. Pea grafts on lupine showed an increase of alkaloid in their leaves and unripe seeds; there was no I in the control peas. References: H. G. G. G.

450.55.6. DETAIL OF LITERATURE CLASSIFICATION

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Probl.bot. no.1:367-405 '50. (MLRA 8:11)
(Photoperiodism) (Leaves)

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Handwritten:
V-8 Jan 15, 1954
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THE INFLUENCE OF THE SPECTRAL DISTRIBUTION OF
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BERRY AND BRYOPHYLLUM. B. S. Moskhov. *Translated*
by [Ronald E.] Cushman from Doklady Akad. Nauk S.S.R.
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"Some Problems Connected With Plant Cultivation by Artificial Illumination".
Tr. In-ta Fiziologii Rasteniy, Vol. 8, No., pp 164-174, 1953.

Placing incandescent lamps (300-500watts) at a distance of 10-12 cm, taking care to protect the soil from overheating, especially around the neck of the root, does not harm plants; many plants assume a spreadout, rosettelike form. Under these conditions, in the winter at 15-20° below zero, radishes produced excellent fruit after 20 days. Cucumbers and tomatoes also developed well. The temperature of the plants was 10-12°. Results on the exclusion of close ingfrared illumination by powerful lamps, with the help of water filters, showed that this part of the light spectrum can also be beneficial to plants.

Results from the utilization of water filters showed that when the temperature of the water in the filters was 30-40°, cucumbers and tomatoes produced fruit twice as large as when the water in the filters was not heated above 10-15°. The largest quantity of dry substance (14.4%) was accumulated by the plants growing in reddish-orange beams, the plants in the blue-violet beams occupying an average position (12.0%). The greatest spreading of stems was observed in the blue-violet rays; the most compact were the internodes under illumination by greenish-yellow beams. Cultivation of cucumbers for the major part of a day with a lowered degree of illumination was found to be more economical than for a shorter part of the day with a stronger light.

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Leningrad Physics-agronomical Inst.

For different species of plants, and dependent on their physiological state, different light schedules were optimum, both as to spectral composition and general power. All electrical sources of radiant energy--in-candescent lamps, fluorescent, and luminescent lamps--are suitable for the cultivation of plants, but their application should be specialized in accordance with the requirements of given plant at a given stage of its development. Five tables and four illustrations provided. (RZhBiol, No 10, 1955)

SO: Sum No 884, 9 Apr 1956

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MOSHKOV, B.S.

/ Effect of intensity and duration of illumination of growth and development of plants. B. S. Moshkov (All-Union Acad. Agr. Sci., Leningrad). *Trial. Rasleni* 2, 530-48 (1956).—An early variety of cotton plant, normally growing well in Southern USSR, showed a decided increase of crop yield on exptl. reduction of illumination intensity from 1000 to 400 watts/sq.m., indicating that intensity of light greater than 50% of normal solar level is excessive for this variety. A known short-day variety of cotton grew best with uninterrupted illumination at 500 watts/sq.m. intensity. Radishes gave the best development and growth under continuous illumination at 600 watts/sq.m. intensity, but flowering began earliest at 400 watt level. In short days expts. (12 hr. illumination) formation of tuber structures occurred best at 1000 watt intensity, i.e. the most intensive illumination. Thus plant productivity can be improved by proper combinations of both duration and intensity factors. G. M. Kosolapoff MD

Lab. Light Physiology, Agrophysics Sci Res Inst. +

Moshkov, B. S.
USSR / Plant Physiology. General Problems.

H-1

Abs Jour : Ref Zhur - Biol., No 16, 25 Aug 1957, 68890

Author : Moshkov, B.S.

Title : Characteristics of Utilization of Light Energy of Natural Sources of Radiation by Plants.

Crir Pub : Tr. In-ta fiziologii rasteniy AN SSSR, 1955, 10, 28-44

Abstract : The comparative spectral distribution of the energy of the visible radiation of various types of lamps is given: 500 volt incandescent lamps; mercury-quartz FRK-7; luminescent lamps giving white light; and also sunlight. The advantage of lateral illumination as compared with overhead illumination is shown. On the basis of the tests conducted in the Agrophysical Institute of VASKhNIL /All-Union Academy of Agricultural Sciences imeni LENIN/ in Leningrad, the authors believe that tomatoes form more vegetative mass under conditions of weak illumination (150 volts/m²) and higher air temperatures (25°) and that

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USSR/Plant Physiology

Growth and development

H-5

Abs Jour : Referat. Zh - Biol., No 6, 25 March 1957, 22407

Author : Moshkov, B.S.

Inst : Not given

Title : The effect of photoperiodic conditions on the daily rhythm of kidney bean leaf movement.

Orig Pub : Biofizika, 1956, 1 No 4, 334-340

Abstract : Plants of kidney beans of improved Robust variety were cultivated under conditions of artificial illumination (incandescent lamps and luminescent lamps, illuminating current ~ 200 watt/m² for different day lengths -- 3-24 hours). Altogether there were 16 variants, each consisting of 4-6 plants. Similar results were obtained from different light sources. An evident dependence was noted of nictinastic movements of leaves (lowering and lifting) on the length of the illuminating period. Movement was absent when illumination was uninterrupted. In a 22-hour day the leaves lifted with light and lowered in darkness. In a 20-19 hour day at first the movements were the same, but after 10-12 days the lowering of leaves came before the advent of darkness although their lifting, as

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USSR/Plant Physiology

Growth and development

H-5

Abs Jour : Referat. Zh - Biol., No 6, 25 March 1957, 22407

before, came only with the light. In the variant with an 18-hour photoperiod even after 6 days the lifting and lowering of leaves came before change of illumination at the same time, and the leaves remained raised for 18 hours. The same thing was observed in a 16-hour day, but here the leaves were raised only 16 hours. An adjustment to the new photoperiod here came more quickly -- in 5 days. For a 14-hour day the adjustment lengthened to 8 days. The advance of leaf lifting in darkness was greater than the advance of lowering on illumination. The plants remained with lifted leaves longer than 14 hours (the length of day). All these special behaviors were even more clearly expressed in plants in a 13-hour day. In variants with a 12-hour day and shorter, the leaves did not lower in light and after 5-6 days began to lift in darkness for 2 hours before the advent of day. In a 3-4 hour day the leaves cased to lower in light and therefore did not lift in darkness. If lowering occurred in light, it was almost never completely so. The plants of this variant lagged in growth compared to other variants, and showed signs of etiolation. The plant flowering of variants with an 8-hour day and longer began almost simultaneously. In vari-

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MOSHKOV, B.S.; MIKHAYLOV, A.P.

Effect of ultraviolet radiation on the dark phase of the actino-
rhythmic reaction in plants. Dokl. AN SSSR 158 no.4:990-992 0 '64.
(MIRA 17:11)
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Predstavleno akademikom A.L. Kursanovym.